FARM PROGRAMS AND RELATED POLICY IN THE UNITED STATES

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INTRODUCTION

Farm policy in the United States has evolved slowly in the six decades since the New Deal created most of the basic programs that continue to govern U.S. agriculture. The durability of farm programs is often remarked upon, but views differ about the implications. The advanced age of farm programs is one of the standard criticisms of farm policy. Critics point out that agriculture has been transformed since the 1930s, but the programs have changed relatively little. They argue that the original rationales, that might have been appropriate in the first half of the 20th Century, no longer apply as we enter the 21st Century. Program supporters note that under the current farm programs, agriculture has prospered and benefited consumers and producers alike. Further, program defenders argue that the farm programs have been built into the very fabric of agriculture in America, and that it would be unfair to change the rules of the game now, for no compelling reason. Finally, they claim that it would be deeply unwise to take the risk of destroying a successful industry by undermining the regulatory foundations that govern U.S. agriculture.

The discussion of the future of farm policy is not an idle academic exercise. Especially in 1995, a live and pressing debate is engaging all with an interest in agriculture and many with an interest in public policy generally. The 1995 Farm Bill debate has raised more than the usual amount of discussion about the fundamentals of farm policy.

The focus of this paper is on policy that regulates and subsidizes production and marketing of commodities. Topics include farm income and price supports, agricultural export programs and import barriers, agricultural conservation programs and regulations, and finally, crop insurance and disaster programs.

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Whereas the list of topics covered in this overview is long, the list of agricultural topics not covered is even longer. Agricultural policy in general could be defined as those issues under the purview of the U.S. Department of Agriculture (USDA) or the Congressional agriculture committees, or included in the periodic "Farm Bills." Such a definition would include: food subsidies; food safety and plant and animal health; regulations or subsidization of commodity marketing and promotion; farm and rural credit policy; rural community development; agricultural research, extension and higher education; and some forestry issues. The Food Agriculture, Conservation and Trade (FACT) Act of 1990 included 25 separate titles that range from "Global Climate Change" to "Honey." If all policies affecting agriculture in a major or primary way were included, the list would be longer yet.[1]

The support and regulation of agriculture involves much more than the basic commodity programs. But, there is no doubt that these programs are the headline issues and the source of much of the subsidy for U.S. agriculture. Therefore, I begin with these programs and discuss them in some detail.

MAJOR COMMODITY PROGRAMS

Key programs for a number of basic field crops and dairy comprise the heart of commodity policy in the United States. In addition, export subsidies, import barriers and land idling are often intimately linked to the direct commodity subsidy programs. These are all discussed in this section but, the amount of detail provided is limited, and the reader is referred to chapters in the "Commodity Policy Issues" section of Hallberg et al. (e.g., Knutson and Smith, 1994), to forthcoming USDA, ERS publications, and to Cooperative Extension Service policy bulletins (1994) for more information on the current state of programs.

Deficiency Payment Programs

Price and income support programs continue to contain price supports (loan rates) which provide a price floor, target prices which determine direct payments to producers, and land set-aside requirements which reduce output and raise market prices. Since at least 1990, the key government support for feed grains and wheat has been the deficiency payment program. Price supports, and the commodity loan programs that are used to implement them, are still on the books and still have some potential for significant government outlays and stock accumulation. As a practical matter, however, effective loan rates have remained well below market prices in almost every market, almost all the time. Table 1 provides basic data related to the deficiency payment programs for major

[1] For a treatment of the whole array of issues likely to be important in the 1995 farm program debate in the United States see Hallberg, Spitze and Ray, (1994).

crops including wheat,corn, rice and cotton. Note the average market prices reported have been well above the effective loan rates in recent years for wheat and corn.

Table 1. Program Data for Direct Income Support Programs

WHEAT (Target Price = $4.00/bushel[a])				
Crop year[b]	1991/92	1992/93	1993/94	1994/95[c]
Average Market Price ($/bu)	3.00	3.24	3.26	3.50
Effective Loan Rate ($/bu)	2.04	2.21	2.45	2.58
Deficiency Payment ($/bu)	1.35	0.81	1.03	0.95
Effective Base (Mil. Acres)	79.2	78.9	78.4	78.2
Participation (%)	85	83	88	87
Acreage Reduction Prog. (%)	15	5	0	0
0/92-Idled (% of Part.[d] Base)	6	11	8	7
CORN (Target Price = $2.75/bushel)				
Crop year[b]	1991/92	1992/93	1993/94	1994/95
Average Market Price ($/bu)	2.37	2.07	2.50	2.20
Effective Loan Rate ($/bu)	1.62	1.72	1.72	1.89
Deficiency Payment ($/bu)	0.41	0.73	0.28	0.45
Effective Base (Mil. Acres)	82.7	82.1	81.8	81.6
Participation (%)	77	76	81	82
Acreage Reduction Program (%)	7.5	5	10	0
0/92-Idled (% of Part.[d] Base)	2	2	4	3

RICE (Target Price = $10.71/cwt.)[e]				
Crop year[b]	1991/92	1992/93	1993/94	1994/95
Average Market Price ($/cwt.)	7.58	5.89	8.09	6.25
Loan Rate ($/cwt.)	6.50	6.50	6.50	6.50
Loan repayment rate ($/cwt.)	5.83	4.85	6.09	5.25
Deficiency Payment ($/cwt.)	3.07	4.21	3.98	3.79
Effective Base (mil-Acres)	4.16	4.14	4.14	4.16
Participation (%)	95	96	97	95
Acreage Reduction Prog. (%)	5	0	5	0
50/92 Idled (% of Part.[d] Base)[f]	131	1	12	6

COTTON (Target Price = $0.729/lb.)				
Crop year[b]	1991/92	1992/93	1993/94	1994/95[g]
Average Market Price ($/lb.)	0.58	0.55	0.5	-
Loan Rate ($/lb.)	0.508	0.524	0.524	0.50
Loan Repay Rate ($/lb.)	0.472	0.438	0.49	-
Deficiency Payment ($/lb.)	0.101	0.203	0.194	0.069
Effective Base (Mil. Acres)	14.6	14.9	15.1	15.3
Participation (%)	84	89	91	89
Acreage Reduction Prog. (%)	5	10	7.5	11
50/92-Idled (% of Part.[d] Base)	5	3	3	1.5

Source: Various USDA Publications from ASCS and ERS.

Notes

[a]A bushel of Wheat is 60 pounds a bushel of Corn is 56 pounds.

[b]Crop years are June to May for Wheat, September to August for Corn, August to July for Rice and Cotton.

[c]Data for 1994/95 are based on projections and partial information in some cases.

[d]Participation Base.

[e]Rice information is traditionally presented per hundred weight.

[f]For Rice a substantial amount of acreage (about 50 percent of that eligible) has been also idled under the normal flex. provisions.

[g]The USDA is precluded by law from publishing cotton price forecasts. Currently cotton prices are at record high levels.

The deficiency payment programs for all crops were revised in 1985 and again in 1990. Both sets of revisions reduced projected outlays from what they would have been under the previous program and reduced government regulation of production and prices. The most important deficiency payment program changes in 1985 included:

i) lower effective price supports;
ii) lower target prices;
iii) marketing loans for rice and cotton so that loan rates do not create a price floor;
iv) the 0/92 option (wheat and feed grains) and 50/92 option (rice and cotton) for growers to plant as little as zero percent of base acreage (50 percent for rice and cotton) and receive 92 percent of their projected deficiency payment on idled acreage; and
v) yields per acre frozen at their 1985 levels to be used for payment calculations.

The most important changes in 1990 were the so-called flexibility provisions that reduced the acreage eligible for payments by declaring 15 percent of base acreage not eligible for payments, and declared another 10 percent of base acreage to be eligible for planting certain other crops, with no payment but no loss of program base.

Deficiency payment programs are voluntary and participation requires compliance with planting restrictions and with other rules such as conservation. For all programs base acreage is determined by a farmers history of planting the crop. For wheat and feed grains, base acreage is calculated on a five year moving average of acres planted and considered planted to each crop. Rice and cotton use a three year moving average for base calculations. Compliance within the flex acreage provisions requires the grower to plant on 75 to 100 percent of base acreage less the ARP. Exceptions include the 0/85 and 50/85 (0/92 and 50/92) programs under which a farm plants as little as zero and gets 85 percent of the projected deficiency payment for the crop. (Prior to 1994 the farmer got 92 percent of the projected payment hence the change in the name of the program.) Growers are also allowed to certify zero planting prior to the crop year and maintain base but get no payments. If a farmer plants more than the previous base, their base can expand; if they plant (or have "considered" plantings) less than the previous base, they lose base. Participation in the program means the farmer will be "considered" to have planted the full base. Therefore to build base or to lose base the farmer must be outside the program.

With the introduction of normal flex acres in 1990, the maximum payment acreage (MPA) is calculated as base minus ARP acres minus normal flex acreage. For example, a farm with 1000 acres of corn base in a year with a 7.5 percent ARP would have a MPA of 775 acres (1000 -75 - 150 = 775). Deficiency payments are made on acres planted up to the MPA.

Deficiency Payment Programs for Feed Grains and Wheat

The reforms in 1990 mean that the major effect of the deficiency payment program for wheat and feed grains is simply to transfer income to farms with base in selected crops. For recent years only a small share of base acreage is required to be idled but some acreage is idled under the 0-92 (now 0-85) programs (Table 1). Further, most

eligible base continues to participate in the programs and relatively little acreage is flexed into or out of the crop for which base is assigned. These facts about the recent allocation of crop land, together with fixed program yields, suggest that the wheat and feed grains programs now have relatively little net effect on the total production or the market price of these crops in the United States.

For wheat (and perhaps barley) the conclusion that the program has relatively little impact on total output and market price is complicated by the influence of the Export Enhancement Program (EEP) which has allocated roughly one billion dollars per year to export subsidy bonuses. The federal crop insurance subsidies and disaster assistance have also provided substantial aid to wheat producers in some regions (Coble and Harwood, 1994). Finally, the Conservation Reserve Program (CRP) has idled 36 million acres, much of which is program base acreage including more than 10 million acres of wheat base. Each of these additional subsidy programs may affect the amount of land allocated to grain production and the domestic market price. These programs are discussed in more detail below.

As a conceptual matter, the deficiency payment programs can increase the incentive to keep land in grain production in the long run, or to build base. Therefore, the programs could increase the overall size of the U.S. grain industry, even if production were relatively unaffected in the short run. Evidence concerning the flexibility in the current program suggests that the programs hold relatively little land in production that would not be there without the programs. First, under the 0/92 program and flexibility provisions farmers can now maintain base and payments, and reduce plantings. About 8 percent of wheat base and 4 percent of corn base are idled under the 0/85 provisions. These percentages are higher for barley and the other feed grains. For wheat, about 2.5 to 3.5 percent of wheat base is flexed out (net) to another crop, compared to 5 to 6 percent of corn base flexed out (net). Given this flexibility, there seems to be little reason to expect U.S. grain production to be smaller without the programs. The same statement cannot be made about the neutral impact of crop insurance and disaster assistance subsidies, particularly in regions with very high loss ratios.

If, as we argue, the feed grains and wheat programs are primarily direct income transfers, with relatively small allocative impacts, then the major effects of the programs are on the rental earnings and the capital value of land with program base. For wheat, deficiency payment outlays have totalled between about $1,400 million and $2,400 million per year since the revision of the program in 1990. In addition, another $600 million to $1,000 have been spent on export subsidy bonuses and an average of several hundred million dollars per year in outlays on crop insurance subsidies and disaster assistance.

Total market revenue for the wheat industry has ranged from a low of about $6.0 billion for the 1991/92 crop year to between $7.8 billion and $8.1 billion in each of the last three years. Under current farm legislation, deficiency payment outlays have been about 25 percent of market revenues. Export subsidies are paid to exporters and affect market prices directly by increasing the price exporters are willing to pay for wheat in the U.S. market. With a national average payment yield of 34.4 bushels per acre, and a projected deficiency payment of about $0.85 per bushel, the program would generate additional revenue of about $30 per eligible acre. This calculation indicates the flow of

payments per acre. If the output and market price effects of the program are small then this revenue impact is also the net effect of the program on producer total revenue.

An appropriate capitalization rate is required to find the asset value of these payments. We use a capitalization rate of about four to one to capitalize farm program benefits. (If this capitalization rate is not a universal constant, it is at least a rate that is consistent with findings for several commodity programs such as dairy and tobacco for which program risk is also an issue.) The implied capital value of wheat payments is about $120 per acre eligible for payments, or about $7.0 billion for the 58 million acres that have received payments in recent years (the ARP has been zero). Spread over the total participating wheat base of about 68 million acres the program generated a capital value of about $100 per acre. Of course, these benefits vary by region and the costs of program participation have not been included in the estimates. In addition, disaster payments and crop insurance benefits have added substantially to wheat industry revenue and these benefits vary even more dramatically from year to year and region to region. Finally, analysis reported in Alston, Gray and Sumner (1994) suggests that import barriers for wheat have likely provided relatively little benefit to producers. (Also see, USITC, 1994, and Haley 1994.)

For feed grains, deficiency payments have totalled from about $1.9 billion in the flood year of 1993 to $4.1 billion in 1992. Another $2,000 million of disaster assistance was provided in crop year 1993. The feed grains industry in the United States is four or five times as large as the wheat industry by production (output was more than 280 million metric tons in 1994), substantially larger in terms of total revenue (the 1994 crop was worth more than $24 billion) and larger in terms of total acreage (about 93 million harvested acres in 1994). The U.S. feed grains industry is dominated by corn production which accounts for about 90 percent of the revenue in a normal year.

Whereas a single program covers all the feed grains, other data are more readily available and more meaningful for individual feed grains. To evaluate the amount of support provided, we will examine data on the corn industry (also in Table 1). Under the current program, effective base is about 82 million acres and the participation rate is about 82 percent which leaves about 67 million acres of participating base and about 50 million to 57 million acres of payment base when the ARP ranges from 10 percent to zero. Corn deficiency payments are in the range of 10 to 20 percent of market revenue. With an average projected deficiency payment for corn of $0.50 per bushel and payment yield of 104 bushels per acre, the average payment is about $52 per payment acre or from $40 to $45 per acre of participating base. Multiplying the annual revenue times four (as was done above for wheat) the program has a capital value of about $160 to $180 per acre of participating base and, for the 65 million to 67 million acres enrolled, the total value of the corn program is about $10 billion to $12 billion. All the caveats listed above for wheat also apply here, including especially the value of disaster program payments in the last decade.

Deficiency Payment Programs for Rice and Cotton

The basic rules for the commodity programs for rice and (upland) cotton were discussed above. However, for these crops marketing loans are an additional source of government payments. Also, the per person payment limits, that apply to all programs tend to be more binding on individual producers of rice and cotton and therefore have more effect on the legal arrangements under which farms operate.

The marketing loan gains for rice and cotton growers are the difference between a USDA calculated world price and the loan rate, or zero when this difference is negative. Participating growers are eligible for these payments on all acres planted and are paid on actual yield, not the program yield on which deficiency payments are made. In addition loan repayment rates vary weekly depending on international market conditions. The loan gain payment is therefore paid out on all acres planted (within compliance limits) and on actual yield. For cotton, since 1991 an additional set of "User Certificate" payments are made that are also based on U.S. domestic and international prices.

As Table 1 shows, the recent rice and cotton programs have required low levels of land idling under the ARP. For rice we have observed relatively little normal flex acreage planted to rice and a relatively large enrollment in the 50/85 program, especially in Texas, and in California during the drought years. This indicates that, in some places at least, rice is not profitable at the margin. Furthermore, some growers are willing to produce at or near the compliance minimum in exchange for a deficiency payment plus market returns and marketing loan gains, but do not plant rice when no deficiency payment is earned.

The low ARP, low percentage of rice on normal flex acres, and high 50/85 participation are all indications that the current program does not limit rice output from above for many growers. If the current commodity program were lifted some decrease in domestic production of rice would occur along with corresponding increases in domestic price. For cotton the current program likely has relatively little impact on acreage—a result similar to that for wheat and feed grains. However, unlike other crops, cotton price exceeded the target price during 1995 and, if this price continues, no payments would be forthcoming.

Price Supports for Soybeans and Other Oilseeds

Soybeans and other oilseed crops are supported only by a loan program. The national average loan rate for soybeans is currently $4.92 per bushel. For 1991 to 1993 the national average loan rate was $5.02 and there was a loan origination fee of $0.10 per bushel. For oilseeds (and for wheat and feed grains) the loan rates vary weekly and by county. They generally remain well below local market prices and provide only some relatively low cost short term credit. The loan repayment rates also vary by week and locale, and have remained at the loan rate plus interest and carrying costs.

Other oilseed crops, such as sunflower seed, safflower, mustard seed, canola, rapeseed and flaxseed all have loan rates that average $8.70 per hundredweight with similar provisions as for soybeans. These are all relatively minor crops. Sunflower is the

most important after soybeans and had a farm value of about $340 million in 1993/94 compared to a farm value of soybeans of about $11.6 billion in 1993.

It is generally noted that the deficiency payment programs aid soybeans and other oilseed industries because these crops are often grown in rotation or at least in the same regions as the crops which are eligible for direct payments. The logic is therefore that the planting requirements of the deficiency payment programs reduce the total plantings of oilseeds. This effect is less important, now that flexibility provisions allow acreage to shift on the margin. For example, between 4.5 million and 6.0 million acres have flexed from program crop base into soybeans in recent years.

The soybean industry also receives some protection from a binding import tariff on vegetable oil which has been approximately 22.5 percent and is scheduled under the Uruguay Round agreement to decline by 15 percent gradually over the next six years.

Import Barriers, Price Support and Allotments for Sugar

The U.S. sugar program has long engendered strong support from the industry, strong disapproval from economists and controversy in domestic and international policy circles. The program details are complex and have changed several times in recent years, but the basics of the program are simple. The domestic price is well above the price of most internationally traded sugar and is insulated from imports by a tariff-rate quota with a high duty applied to imports above a certain quantity. Currently domestic marketing allotments (along with the import barrier) keep the domestic price above the price support. Overall, subsidy for the industry derives mainly from the import barrier. The domestic market price is usually about double the price of sugar on the international market—about 22 cents per pound for domestic sugar compared to about 10 to 14 cents per pound for imported sugar.

The Uruguay Round agreement led to a change in the tariff-rate quota for sugar. It fixed the quantity for import at not less than 1.136 million metric tons (about 15 percent of U.S. domestic use) and raised the second tier GATT-bound duty from 16 cents per pound to about 17.6 cents per pound in 1995. This duty will decline by 15 percent by the year 2000.

U.S. sugar policy has long been seen as an example of a trade distorting policy with substantial costs to consumers (Johnson, 1974). The Uruguay Round agreement failed to cause any significant reduction in the program costs borne by domestic consumers, at least in the short run. Nor did it reduce the excess resource cost of producing sugar in the United States when it could be imported at roughly half the cost. A larger tariff-rate quota would reduce economic costs of the program. For example, the benefit of an expanded quantity of low-tariff imports of, say, 0.5 million tons of sugar, would be a direct gain of about $100 million to consumers. The losses to growers and those who own sugar producing land or other resources would be less than these gains to consumers, because much of this sugar is produced at high cost on land that is environmentally fragile or better suited to other uses (Hafi, et al., 1994).

The 1990 FACT act complicated the sugar program by adding authority for marketing allotments whenever projected U.S. production and consumption (at the support price) are such that imports would have fallen below 1.136 million metric tons. Marketing of domestic sugar is restricted so that imports are at the 1.136 million metric ton minimum. The domestic price remains approximately equal to the support price, so that loan forfeitures do not occur. In that way, U.S. sugar policy was made more similar to U.S. peanut policy and policies in Canada for supply managed commodities. For cane sugar, allotments are redistributed to other firms by USDA if any processor cannot meet its allotments. For beet sugar, annual allotments may be sold to another processor. In 1993, allotments were sold for about one cent per pound by a processor in California to beet processors in the Midwest.

Import Barriers, Price Support and Marketing Quotas for Peanuts

The peanut program has long had an import barrier to insulate the U.S. domestic market from imports, a price support at about double the price of internationally traded peanuts, and domestic marketing quotas to keep the U.S. market price above the price support. Unlike the case of sugar, the United States is a low-cost high-quality producer of peanuts and exports non-quota peanuts into the world market. The Uruguay Round agreement caused several changes in the peanut program but it did not change the level of protection, the degree of support for the industry or the cost to domestic consumers (Rucker, Thurman and Borges, 1994).

The following changes in peanut policy were introduced as a part of the agreement:

i) The peanut import quota became a tariff rate quota with the over-quota duty set at more than 150 percent for each relevant tariff line.
ii) The import quantity was increased from about zero to three percent of domestic consumption.
iii) The quantity of manufactured peanut products was reduced to offset the increase in imports of peanuts themselves.

The result is no net trade impacts on the domestic industry.

Peanut marketing quotas have been in place for many years. They are a valuable asset owned by individual growers or land owners and are tradeable within local areas on an annual basis. Because the price of quota peanuts is double the price of peanuts without quota, the value of quota is about equal to the value of the peanuts themselves.

Peanut and sugar producers receive little support from taxpayers and this has insulated them from the federal budget pressure facing other commodity programs. However, these programs are known to cause at least as much economic distortion as others and they are currently under pressure politically, because they involve stifling regulations.

Import Barriers, Price Support and Production Quotas for Tobacco

Tobacco policy has similarities to peanuts and sugar. However, the differences are even more important. Tobacco operated without significant import barriers until 1994 and the domestic content rule introduced then is now being revised to eliminate any sizable trade impact. Production quotas raise the market price and exports are maintained because of the unique quality of U.S. leaf. The United States remains a major importer and exporter of tobacco.

Tobacco production quota is marketable within local areas. The rental rate for quota averages roughly 25 percent of the price of tobacco, and varies inversely with production costs (Rucker, Thurman and Sumner, 1995). The Uruguay Round agreement had little impact on tobacco policy in the United States and controversy over health effects and excise taxes are the major issues for the industry. In order to insulate it from these controversies, the tobacco program is separate from the legislation that is renewed in the periodic farm bill process and so is not a part of the 1995 Farm Bill debate.

Import Barriers, Price Supports and Marketing Orders for Dairy

The dairy industry is large, widespread and diverse. The value of total milk production in the United States is approximately $20 billion per year. The price of milk is supported at $10.10 per hundredweight (cwt) of milk by federal government purchases of manufactured dairy products. This program has existed for many years and the price support has been $10.10 per cwt since 1990 after declining from $13.10 per cwt in 1980. The price of milk is above the support price in almost every market almost all the time, so the net government outlays under the purchase program have remained below $300 million in each of the last four fiscal years. These outlays amount to only about 1.5 percent of industry revenue and government purchases are less than five percent of production.

In order to reduce outlays under the price support and to otherwise raise the price of milk, the 1990 farm legislation introduced a milk tax (of about $0.18 per cwt.) to be paid by those farms that increased production during the calendar year. This milk tax has a variety of perverse impacts on the growth path of farms, but the general effect is to tax efficient farms that are operated by younger farmers in growing markets in order to benefit the inefficient and old ex-farmers in stagnant markets. The idea of the tax was to reduce the net budget costs of the price support. Tax exemption for stagnant or shrinking farms is based on the silly notion that the problem of budget cost is caused by farms that are growing rather than by farms that are not shrinking fast enough or by high cost farms that are remaining in business.

Outlays on the price support programs are minimized by the import barriers for dairy products. Prior to the Uruguay Round agreement dairy import barriers were mainly quotas authorized under Section 22 of the Agriculture Adjustment Act of 1933 (as amended). These have been converted to tariff-rate quotas with very high tariffs for the over-quota and some slight expansion of import access in those cases where the previous import quota was below three percent of domestic consumption. Tariff rates are likely

to be prohibitive throughout the six year implementation period and quantities subject to low tariffs remain relatively small. Remaining import barriers for manufactured dairy products will keep domestic prices well above those of potential imports.

Most of the U.S. domestic dairy industry could compete on international markets with no subsidies, but the combination of domestic price policy, import barriers, and export subsidies make the U.S. prices much higher than international market prices for manufactured dairy products. There are regions of the world, such as New Zealand and parts of Australia, that can produce tradeable dairy products at lower cost than anywhere in the United States. But, the production capacity of these regions is very limited compared to the size of the world market. Opening the U.S. and other domestic markets and eliminating dairy export subsidies would cause higher international prices for dairy products, allow U.S. producers to compete in a world export market and allow access to the United States for additional low cost dairy products. Current prices at which dairy products are traded internationally are about 40 percent lower than internal prices in the United States. But, using such a measure would substantially overestimate the gain to consumers from opening the U.S. market to non-subsidized imports, because an open U.S. market would cause international dairy prices to increase.

The final part of U.S. dairy policy consists of marketing orders. These policies set minimum milk prices based on end-use and regional market, pay producers a blend (weighted average) of these prices, and restrict the movement of fluid milk across regions. Every major dairy region except California, which accounts for about 15 percent of the total, participates in the federal marketing order program. The marketing orders, including the state policy in California, raise the average farm price of milk by about 15 to 30, increase milk output, and cause a reduction of fluid and soft product use relative to manufactured, storable product use (Sumner and Wolf, 1994 and Helmberger and Chen, 1994). Overall, the complex combination of milk policies in the United States operates at substantial costs to consumers and provide much smaller benefit to producers.

Other Regulation and Subsidies

Most other agricultural policies are produced with relatively little direct government support. Marketing orders for fruits and vegetables, for example, have little remaining supply control and no direct subsidy. They generally do almost nothing to enhance producer price. However, limes, juice oranges and a few other crops have relatively high tariffs, as does beef. The U.S. beef industry receives access to low cost grazing on federal land in the Western States. The size of the subsidy is relatively small, at most a few hundred million dollars for an industry with farm sales of almost $40 billion. Imports of beef have been limited by the Meat Import Law which now applies a tariff-rate quota with the over-quota tariff of 31 percent. After adjusting for quality and shipping cost, the price impact of the protection is relatively low, probably no more than a few percent of the price of beef in the United States. Early work at the Organization for Economic Cooperation and Development (OECD) on the beef producer subsidy equivalent (PSE) is now acknowledged to have been flawed and a much smaller number applies (Sumner, 1995).

Farm production also benefits from irrigation water subsidies from federal projects. Evaluation of that subsidy is complex, given that the projects were built many years ago and they produce water, power and recreation as joint products. In California, where about half of federally subsidized water is used, the average subsidy (calculated as the marginal opportunity cost minus the price to growers) is about $20 per acre foot. About 8 million acre feet of federally subsidized water is used in California, and after adding the subsidy for power used for water delivery, the total subsidy is about $200 million. This subsidy is distributed across irrigated crops worth about $10 billion. It likely contributes marginally to the California dairy industry. The value of irrigation water subsidy in terms of lower feed costs (mostly alfalfa) may lower milk production costs in California by about $0.10 per cwt. or one percent. In the Western United States, total irrigation water subsidies are likely to be about $0.5 billion per year.

EXPORT PROGRAMS

Export policy in the United States covers a host of commodities and an alphabet soup of programs including EEP, DEIP, COAP, and SOAP, which provide export price subsidies, MPP and FMD which provide aid for export marketing, GSM-102 and GSM-103, which provide credit guarantees for export sales and PL-480 which provides food aid. All of these programs use government resources to aid farm exports and have been around in one form or another for decades (see Johnson, 1950 and Benedict and Stine, 1956). This section reviews a variety of programs and draws on the analysis in Sumner, (1995).

Market Promotion

International market promotion programs subsidize participation in trade shows, store displays and similar activities. The headline case is the Market Promotion Program (MPP) which was renamed from the Targeted Export Assistance Program (TEA) in 1990. Other, older but smaller USDA programs, such as the Foreign Market Development (FMD) program, also have provided promotion funding and assistance for food and other agricultural exports. The MPP was originally funded at $200 million per year (the authorized maximum). After being cut in each of the previous two years as well, MPP funding was reduced further to $85.5 million in 1995.

MPP funds are used for a variety of activities such as advertising of branded goods by large multinational firms and generic promotions by industry organizations. A large share of the funds are used to promote fruits, vegetables, tree nuts and other high value-per-unit and value-added products. It is sometimes argued that some unspecified barrier or market failure causes firms to under-spend on advertising overseas and therefore a subsidy is warranted. A second argument focuses on generic products for which no single firm would have the incentive to undertake promotion and therefore a subsidy is required to encourage export sales. Even if such promotion were profitable for the industry,

however, this argument suggests funding by an industry consortium and not by the general taxpayer.

The Foreign Agriculture Service of the USDA has attempted to provide empirical evidence to support the payoff to market promotion funds. These efforts indicate amazingly high returns to promotion, but this work suffers from methodological defects that render the results unconvincing (Dwyer, 1994). The major problem with such empirical estimates is the difficulty of isolating in the time series the effects of promotion from the myriad of other factors that affect sales.

Export Credit Subsidies

The Export Credit Guarantee Program (GSM-102) provides backing for commercial loans to importers for terms of up to 3 years. The Intermediate Export Credit Guarantee Program (GSM-103) is similar, but allows loans of between 3 years and 10 years. GSM-102 provides guarantees for about $5 billion of credit per year and GSM-103 has an authorized limit of $1 billion per year. In recent years, about 10 percent of all U.S agricultural exports have been shipped under these credit programs. About 20 to 30 percent of grain and oilseed exports have been financed with credit guarantees, while less than 10 percent of exports of other commodities have used these programs.

The Department of Agriculture determines eligible countries based on assessments of credit worthiness and potential benefits. Participating buyers obtain credit from U.S. commercial banks or other financial institutions and the export shipper receives cash upon shipment. If the foreign buyer fails to repay its loan on schedule, the U.S. Department of Agriculture repays the U.S. financial institution and attempts to collect the repayment directly from the foreign buyer.

As with export promotion subsidies, credit programs that meet some basic international criteria are not subject to Uruguay Round GATT disciplines. Nonetheless, export credit programs are similar to explicit price subsidies in several ways, such as the effects on the quantity of exports, market prices, and the net government farm subsidy outlays (Vercammen and Barichello, 1994). In addition, credit subsidies, as implemented by the United States and other major export competitors, are targeted to particular buyers and therefore have the potential to facilitate price discrimination. Unlike explicit price subsidies, with credit guarantees, the amount of subsidy provided may not be evident.

The amount of implicit export subsidy included in credit guarantees may be assessed in several ways. One way is to use the budget costs associated with the credit guarantee. For example, for fiscal year 1993 the budget cost originally assigned to credit programs was $158.5 million or 2.78 percent of the program level of $5.7 billion. The 1993 rate has been revised to 13.2 percent based on the subsequent experiences. A larger program level or a more risky portfolio of loans each implies a larger expected budget cost. Currently the executive branch uses an ex ante rate of about seven percent and the Congressional Budget Office uses an anticipated loss ratio of about 12 percent for agricultural credit guarantees.

In 1993, the average explicit export price subsidy was approximately $40 per ton for wheat—approximately 25 percent of the export price of wheat. Thus the credit guarantee represents an implicit subsidy that is about one quarter to one half as large as the explicit price subsidy and applies to a smaller percent of the wheat crop. Of course, seven percent of the export price is not a fully accurate measure of the effect of the credit guarantees on the quantity or value of exports. Some countries that makes use of export credit guarantees may place a high value on a subsidy in this form. Alternatively, when a credit guarantee is available, a country may use it even though its risk of default is low and it could have access to commercial credit at only slightly higher rates. The value to the importer may be larger or smaller than the expected cost to the U.S. treasury.

In some limited cases, government backed credit guarantees could add to the efficiency of international market transactions. Export buyers are often foreign governments that may be heavily influenced by the participation of the U.S government to repay loans for which they might not otherwise qualify. Some U. S. government participation in the credit process therefore may be useful. However, this participation could take the form of a commitment to help enforce contracts rather than a financial commitment to repay the loans.

Explicit Export Price Subsidies

The Export Enhancement Program (EEP) subsidizes several commodities but focuses 80 percent of its aid on wheat. It began operation in 1985 and was subsequently authorized under the 1985 Farm Security Act. (See Ackerman and Smith, 1990, and Gardner, 1994.) The Dairy Export Incentive Program (DEIP), the Sunflowerseed Oil Assistance Program (SOAP) and the Cottonseed Oil Assistance Program (COAP) also began in the later half of the 1980s. The importance of export subsidies varies widely even among the commodities to which they have been applied. For example, only a tiny share of rice, beef or pork exports are made under EEP, but recently almost all barley and more than half of all egg, vegetable oil and wheat exports have been made under the applicable export subsidy programs.

Export subsidy program characteristics include the following.

i) The subsidies are targeted (for example, the subsidies have not been provided to Japan, Korea, Taiwan, the EU, or much of Latin America).
ii) They are now provided in cash to the U.S. export firms.
iii) The EEP process requires that national markets be judged eligible to receive an allocation before potential subsidies can be discussed.
iv) Export firms deal with export buyers directly to determine the export subsidy required to complete a sale. Per unit subsidies are supposed to be the minimum necessary for the given transaction.

Programs that apply direct export price subsidies (including the EEP and similar programs) are subject to the Uruguay Round agreement disciplines on export subsidies. For each commodity, subsidized export quantities in year 2000 must be 21 percent below the average during the 1986 to 1990 base period. In addition, the value of export subsidies must be reduced by 36 percent compared to the base period values for each

commodity. The schedule of reductions requires that export subsidies be cut in equal instalments from either the 1986-90 base or from the 1991 levels if export subsidies in that year were higher than they were in the base period. The U.S. commitments are noted in Table 2 for each commodity.[2]

Table 2. U.S. Uruguay Round Agreement Commitments Regarding Export Subsidies

Commodity	Annual Quantity		Annual Outlay ($1,000)	
	1995	2000	1995	2000
Wheat (and Flour)	20,238,000	14,522,00	765,490	363,815
Coarse Grains	1,906,000	1,561,000	67,735	46,118
Rice	272,000	39,000	15,706	2,369
Vegetable Oil	587,538	141,299	52,960	14,083
Butter & B. Oil	42,989	21,097	44,793	30,497
Skim Milk Powder	108,227	68,201	121,119	82,464
Cheese	3,829	3,030	5,340	3,636
Other Milk	12,456	34	14,374	21
Beef	21,486	17,589	33,520	22,822
Pork	483	395	730	497
Poultry	34,196	27,994	21,377	14,555
Eggs	30,262	6,920	7,588	1,604

Source: USDA, FAS, "Gatt/Uruguay Round Fact Sheets" February 1994.

Export price subsidies have been the subject of a vigorous academic and political debate in recent years. (See for example Alston, Carter, and Smith, 1993.) Almost all of the analyses have focused on the EEP and especially the effects of the EEP for wheat. The export subsidies for other commodities are similar and many of the conceptual issues apply to them. Any evaluation of a complex commodity policy such as the EEP hinges

[2] See the summary of the agriculture agreement in IATRC (1994) for more details and analysis.

on what other policies and market conditions are expected to hold independently of the policy evaluated. In particular, in the case of the EEP, one must decide how the income and price support programs respond to EEP operation.

Several conceptual arguments have offered support for the idea that targeted export subsidy programs may increase national income. The first relates to terms-of-trade gains in the non-subsidized export market. An export subsidy to only part of the market can be used to raise overall quantity demanded and to raise the export price in the non-subsidized part of the market. Then, the additional profits from this higher price offset some of the costs of the original subsidy.

The terms-of-trade benefit of the targeted export subsidy may be indicated by comparing the export subsidy cost to the added export revenues from the non-subsidized market. With plausible supply and demand elasticities it is difficult to see how total revenue in the non-subsidized market could rise by any more than $200 million (at most $15 per ton on at most 13 million tons) compared to EEP outlays of more than $1,200 million in 1994 (Sumner, 1995). Excess outlays on the EEP are surely larger than revenue gains in the non-subsidized export market. Thus, the terms-of-trade gains are positive, but limited.

The second conceptual argument relates to the ability of export subsidies to reduce the total budget cost of all program subsidies principally by reducing the budget costs of direct payment programs. For example, by shifting out total demand, a targeted export subsidy raises the domestic price to producers. When this price is also used to calculate the domestic farm program payments, part of the potential gain to producers is transferred back to taxpayers in the form of lower outlays for the domestic subsidy. In theory, the domestic price effect could be large enough that the savings in domestic program costs more than offset the expenditures on the export subsidies.

Government budget costs of farm programs are a particular interest for two reasons. First, the total outlays available for farm subsidies may be limited. Therefore, if a combination of programs can achieve a given farmer benefit, with the same or lower government outlays, it may be preferred by farmers. Second, taxation itself has costs to the economy. If the outlay of tax money can be reduced for the same income transfer to farmers, the overall national economic well-being may be increased. Estimates of the deadweight costs of taxation (the excess burden) vary widely, but these costs are likely in the range of 10 percent to 30 percent. (Alston and Hurd, 1990 discuss the issue in terms of farm programs.) Recognizing the deadweight cost of taxation, it is theoretically possible that a targeted export subsidy could be devised that would benefit the whole U.S. economy by reducing deficiency payments by more than the total value of export bonuses. Unfortunately, such a program does not seem likely under realistic market and program parameters. Sumner (1995) provides some sample calculations that show how unlikely it is for the EEP program to reduce total outlays.

A third conceptual argument for export subsidies relates to mitigating the economic resource cost of the domestic farm payment scheme rather than the budget costs. In particular, the amount of land required to be idled under the farm program may be reduced in response to an increase in demand caused by the export subsidy. In that case,

the national welfare losses associated with land idling are smaller and this improvement may offset some of the economic cost of the export subsidy.[3]

The Office of Management and the Budget (OMB) has assumed that the budget costs of the EEP program were generally offset by lower deficiency payments because the farm price of wheat rises with the EEP. However, the Congressional Budget Office (CBO) has assumed that the acreage reduction programs are relaxed to accommodate increased export subsidies so that market price is constant and total budget costs rise when the EEP increases. If the acreage planted under the wheat program increases when the export subsidy program expands export sales, the quantity produced may rise enough that the market price does not change. With a constant domestic price, there are no budget savings in the domestic farm program to offset export subsidy costs and, in fact, farm program payments increase because the production eligible for payments increases as the ARP is reduced. There are also no terms-of-trade gains in the non-subsidized export market.

When the price does not rise with more subsidized exports, U.S. consumers do not face higher prices, and farmers gain from a lower requirement to idle land and from additional direct government payments that are made on about two-thirds of the increased production. The national economy benefits when idled land is returned to production, but it loses when subsidies are paid to foreigners and when higher taxes or increased deficits are used to finance export subsidies and additional deficiency payments to farmers.

A few calculations will suggest the order of magnitude of the loss from more land idling. Assume, for example that if the EEP were removed the United States would export about 1/3 less or about 10 million bushels less. This assumes that the additionality of the EEP has been about 50 percent on the tonnage subsidized—a figure that is well above the proportion found in empirical analysis. Reduced production of 10 million tons would mean lower acreage by about 10 million acres (using an average yield slightly below the national average). If we take a rental value per year of the idled wheat acreage of $40 per acre, this implies the value of the land idled would be approximately $400 million.[4]

The $400 million figure is likely an overstatement of the value to the economy of keeping wheat land in production for three major reasons. First, the additionality assumption is extreme; the acreage kept in production by the EEP is likely less than 10 million acres. Second, the 10 million acres assumption means that without the EEP there would have been a wheat ARP of at least 15 percent in recent years. These points suggests some lower acreage figure to be more plausible. Finally, wheat land has some value when it is idled, and this land is expected to be of lower than average productivity, therefore the $40 per acre rental value probably over-states the value of keeping idled land in production.

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[3] See also USCBO, 1994.

[4] The $40 per acre figure is based on an approximation of the national rental rate of wheat land that would be idled if the ARP was raised.

The forgoing analysis has provided an extensive discussion of the export subsidy programs focusing particularly on the export enhancement program for wheat. The details of the analysis would differ for analysis of export subsidies for other commodities, but the policy conclusions would not differ. In fact, for a number of commodities to which the export subsidies are applied there are no deficiency payments to be offset. Further, for some commodities almost all exports are shipped with subsidy, the United States is a relatively minor player in the world market or exports play a minor role in total demand for the product. For these commodities it is very hard to find any case under which export subsidies have even the potential to increase national income.

There is also an argument for export subsidies as strategic trade policy tools. For example, it is often argued that the EEP may have contributed to the European Union (EU) reform of the Common Agricultural Policy (CAP) and to the reduction of EU export subsidies through Uruguay Round commitments. The 1990 FACT Act explicitly required the use of the EEP and related programs to counter unfair trade practices. Further, the 1990 Omnibus Budget Reconciliation Act tied spending for export programs directly to progress in the Uruguay Round. The Act required spending on export programs to increase when the Round was not successfully concluded by June 1992. This threat failed.

Export subsidies now have even less potential to encourage international reforms. Further, they have counter-productive international policy consequences that should be considered. They almost surely affect non-subsidizing nations who are generally trade allies of the United States. Countries such as Argentina in wheat trade, or New Zealand in dairy product trade, do not have the policy clout that comes with large domestic markets, but they do play significant roles in multilateral negotiations. These countries are in a strong position to emphasize the hypocrisy of U.S. agricultural trade policy, particularly if export subsidies are directed towards competing with them for markets that are otherwise not subsidized. Australia has been vigorous in this way already in 1995.

The summary policy implication from the analysis presented here is the conventional one that export subsidies are counterproductive as trade policy for U.S. agriculture (Baldwin, 1992). Export subsidies may provide benefits to specific farm interests, but it is likely that larger benefits to recipients could be derived from the same budget and economic cost to the U.S. economy by using direct domestic payments.

International Food Aid

The United States contributes about $2 billion in food aid each year. This amount provides over half of the world's supply of food aid and about 20 percent of the total U.S. international economic assistance. International food aid is authorized under three distinct titles of the Food for Peace or PL-480 program, under Section 416 (b) of the Agricultural Act of 1949, and under the Food for Progress Program of the 1985 Farm Security Act. The Food, Agriculture, Conservation and Trade Act of 1990 made substantial changes to these programs.

Since 1990, Title I of PL-480, operated by the USDA, provides mostly aid to stimulate development and encourage the expansion of commercial markets. Title II provides humanitarian donations and other donations to stimulate economic reforms

through private organizations and multilateral programs. Title III provides aid to the least developed nations based on criteria related to relieving malnutrition. These latter two titles are administered by the Agency for International Development. Food aid under section 416 (b) relies on surplus commodity stocks.

Food aid is not limited by the Uruguay Round agreement. In fact, so long as it is accepted that shipments meet food aid criteria, the Uruguay Round agreement encourages food aid as a part of the effort to assure that the agreement does not harm developing countries. A decline in U.S. food aid in the future will depend on budget costs not international agreements.

Summary on Export Policy

In response to the Uruguay Round agreement the United States Administration pledged to treat maximum subsidy limits as minima as a part of their domestic policy agenda. Oddly, at the same time that many have questioned the rationale and effectiveness of export market promotion and credit programs, in the context of the Uruguay Round agreement, spending for these export programs may actually increase.

The Uruguay Round implementing legislation did not require additional export measures. However the Administration made public promises to proceed along these lines. The Secretary of Agriculture and the Director of OMB jointly stated in a letter on September 30, 1994 to Chairmen and Ranking members of the House and Senate Agriculture committees that export subsidies would be continued at the maximum allowable levels for the next six years (Espy and Rivlin, 1994). They further stated that the administration would propose increasing the funding for domestic and export programs by $600 million over five years.

THE CONSERVATION RESERVE AND RELATED PROGRAMS

Environmental motivations for farm programs have been with us for many years now. Sometimes people forget that the Soil *Conservation* Service and the Agricultural Stabilization and *Conservation* Service were traditional farm agencies. The importance of purely environmental regulations on farming and land use is a newer phenomenon, but these regulations are outside the scope of this paper.

Land Idling Programs

The Conservation Reserve Program (CRP) and related long-term land idling schemes that focus on water quality and wetlands, cost the government about $2 billion per year and idle about 37 million acres. These programs began to enroll land in 10 year contracts in 1986 and thus acreage enrolled in the early years was originally scheduled to begin leaving the program soon. The current debate relates to extending the program and

changing its focus. Most observers suggest that the environmental benefits have been low relative to the cost of the program. However, the CRP is very popular among farmers.

Currently, budget technicalities are seen by some as important to the likely life of the program. On a more basic level, the issue is whether the program is cost effective in dealing with environmental externalities given deficiency payment program savings, resource costs of land idling, and the budget cost of the program itself.

The CRP asked farmers to offer bids for long term leases under which their erodible crop land would be held out of production. The USDA accepted the lowest cost rental agreements, subject to eligibility criteria that spread the idled land across the nation. Later, related programs used more sophisticated methods to score the environmental benefits in order to better choose land to enroll.

Table 3 shows the distribution of CRP acreage across major crop production regions in the United States. Most of the land is in the Great Plains and the Northwest. About 11 million acres of land with wheat base is in the CRP. The second column of Table 3 reports recent estimates by the USDA of the number of acres likely to return to crop production as enrollment expires and the third column shows the percentage of the total for each region. Overall the USDA results suggest about 63 percent of this crop land, that is now required to be idled, would actually return to production.

A reasonable revision of the current program would idle fewer acres with more tightly specified environmental benefits that focus on externalities associated with erosion, water quality and wetlands rather than just meeting a erodibility criterion (Thurman, 1995). Such a reform may be likely in 1995.

Regulations Related to Land Use and Other Environmental Rules

U.S. regulations of land use, such as the Endangered Species Act, wetlands restrictions and water quality rules are pervasive and complex. Farmers see these policies and other regulations, such as those related to farm labor, pesticides or animal waste, as significant burdens on their businesses. Reducing government involvement in agriculture may mean reducing the force of these regulations as well as lowering subsidies. If pressed, many farmers would see it as a positive trade to eliminate these regulations and farm subsidies simultaneously.

FEDERAL CROP INSURANCE AND DISASTER AID

For more than 15 years the United States government had operated two programs, the ad hoc disaster payment program and multiple peril crop insurance, to aid farmers with crop losses resulting from weather and similar causes. The passage of the 1994 Federal Crop Insurance Reform Act in October 1994, however, will change the way the government responds to farmers' weather-related yield losses.

Despite federal efforts to make crop insurance the primary form of disaster protection, crop insurance participation has been low, reaching about one-third of eligible acreage nationally. At the same time, crop insurance losses have been high. Indemnities exceeded premiums by more than 50 percent for the period 1981-93, resulting in government outlays more than $7 billion for this period. Ad hoc disaster payments to farmers also have been high. For the same period (1981-1993), uneven and uncertain federal "ad hoc" disaster spending was more than $11 billion. Ever-increasing federal outlays for ad hoc disaster aid and crop insurance resulted in budgetary pressure and created a major impetus for the recent crop insurance reform (Goodwin and Smith, 1995).

Table 3. Conservation Reserve Acreage and Acreage Projected to Return to Production if CRP Ends

	Enrolled	Projected to Return	%
Northwest (WA, OR, ID, MT)	5.3	3.8	71.7
Northern Plains (ND, SD, WY, NE, CO, KS)	11.9	7.6	63.9
Southern Plains (NM, OK, TX)	5.8	3.2	55.2
Western Corn Belt (MN, WI, IA, MO)	6.6	5.1	77.2
Eastern Corn Belt (MI, IL, IN, OH)	2.0	1.5	75.0
South (KY, WV, VA,...)	4.1	1.2	29.3
Total	35.7	22.4	62.7
Others (not surveyed)	.6	-	-

Source: USDA, ERS Agricultural Outlook, August 1994.

The Reform Act revamps the federal crop insurance program to broaden producer participation and reduces the likelihood of future ad hoc crop disaster assistance. The main features of the Federal Crop Insurance Reform Act include the "on-budget"

designation of ad hoc disaster payment spending, a catastrophic crop insurance plan (CAT coverage), the option of subsidized "buy-up" coverage, linkage to certain farm programs, and a standing disaster assistance program (NAP) for non-insured crops. To reduce legislation, authority for the designation of "emergency" spending is repealed. Future outlays for emergency crop losses will be "on-budget" rather than "off-budget," requiring an offset in spending in other program(s). Federal crop insurance is supplemented with a new Catastrophic Coverage Level (CAT) available to farmers for a processing fee of $50 per crop. The fee cap is $200 per farmer per county and $600 per farmer in total. CAT coverage will pay farmers for crop yield losses greater than 50 percent of their actual production history yield (a 4-10 year simple average) at 60 percent of the expected market price. Farmers may purchase additional insurance coverage, providing higher yield protection (up to 75 percent) and/or price protection (up to 100 percent). Added coverage is subsidized at a higher rate than under the pre-reform program.

To be eligible for commodity support programs, certain Farmers Home Administration loans, or CRP contracts, farmers are now required to have at least catastrophic coverage for each insurable crop. Under the new rules, crop insurance participation is expected to be high because it is required for producers that receive any other subsidy. CAT and NAP are likely provide lower benefits to farmers than the benefits provided under pre-reform ad hoc disaster aid. CAT now costs farmers nominal fees, and to receive payments, farmers must experience yield losses greater than the pre-reform level of 40 percent. However, farmers purchasing additional crop insurance coverage will be subsidized at a higher rate.

For crops for which insurance is not currently available, the Reform Act provides a standing disaster aid program under NAP provisions. NAP is similar to CAT in terms of coverage and eligibility requirements. However, NAP requires an additional eligibility condition—a 35 percent area loss to trigger any individual payments (Lee et al., 1995). Once the area-level threshold is reached, farmers will be paid for individual crop losses in excess of 50 percent at 60 percent of the price election announced by USDA in advance of the crop year. The area-triggered loss requirement of NAP will reduce significantly the likelihood of an individual receiving payments.

Many farmers will likely get no payment from the new programs and many express resentment at being required to enroll in something worthless. In addition, even growers who are willing to stipulate that they would never receive benefits are required to provide accurate and detailed production records under CAT (by farm, for operations with more than one farm). The future of the new program, however, is likely to be indicated by its success at forestalling ad hoc disaster assistance. It is also important to reduce losses of the crop insurance program and reduce the uneven crop and geographic pattern of excess loss ratios. Crop insurance and disaster aid programs were some of the budget-busting failures of the 1980s and 1990s. The 1994 Act reduced the generosity of the programs, but moral hazard and adverse selection inherent in crop insurance remain unresolved. Also, the demand for special disaster aid will still occur when television news pictures show farms blowing away or under water.

CONCLUSIONS: THE GOVERNMENT ROLE IN AGRICULTURE

Agricultural subsidies appear in an impressive and imaginative array of form. Nonetheless these subsidies receive little support from economists or other outside-observers. Despite general skepticism about government current activities most analysis by economists suggests that there may be too little government in a few areas of U.S. agriculture. The payoff to more government activity in creating and disseminating knowledge has been established in many studies. (Wright, 1995; Alston and Pardey, 1995.) And there are cogent arguments for a government role in sponsoring and encouraging researchers.

Agricultural policy in the United States is complex and varied. About half of farm output receives relatively little direct subsidy, but some commodities such as wheat, have export aid, import protection, subsidized crop insurance, paid land reserves, as well as direct government payments. Other commodities such as milk have import barriers, and incredibly complex government price regulations that cost consumers much more than they return to growers. Finally, commodities such as peanuts and sugar have only import barriers that alone generate large rents to owners of land or marketing quota.

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THEME: UNDERSTANDING THE CANADA/UNITED STATES GRAINS DISPUTES: BACKGROUND, FACTORS AND IMPACTS

One paper on each country provides policy, program, institutional and market characteristics in the grains sector as background for the next two papers. The last two papers provide information on the disputes and attempt to identify some of the impacts of the disputes.